

The Office Action rejected claims 1-4 and 7-8 under 35 U.S.C. §103(a) as being unpatentable over Kikuchi (U.S. Patent No. 6,227,973 B1). The Office Action takes the position that Kikuchi teaches or suggests all the features recited in claims 1-4, 7 and 8. Applicants respectfully submit that claims 1-4, 7 and 8 recite subject matter that is clearly distinguishable from Kikuchi. Accordingly, Applicants request the reconsideration of claims 1-4, 7 and 8.

Claim 1 is directed to an information processing apparatus for outputting video and audio signals to a home TV set. The apparatus comprises a man-machine interface, a semiconductor memory and an information processor. The man-machine interface converts into an electrical signal, one or plurality of urging force, movement in a space, sound information that is given by a human to the man-machine interface. The apparatus includes a semiconductor memory storing software for driving the information. The software is configured by an operating system, the information processor hardware driver, a man-machine interface driver, and an application software engine and the application software contents portion. The operating system administers at least a state control of all the tasks included in the present software, task scheduling, shared resource control between tasks, and interrupt control. The information processor hardware driver efficiently handles hardware resources in the information processor and configured by a driver program and driver data. The driver program includes one or more tasks and subroutines, and is utilized in a function according to the task execution or a subroutine call from the application software engine. The driver data is a set of data that is handled by the driver program. The man-machine interface driver efficiently delivers the electrical signal from the man-machine interface to the application software engine, and includes one or more tasks and subroutines, and is utilized according to a task execution or a subroutine call from the application software engine. The application software performs a process relied upon by an application kind among regular processes that is required by the application software contents portion and includes one or more tasks and subroutines. It is utilized in the task execution function or subroutine call from the application software contents program. The application software contents portion is configured by the application software contents program and application software contents data. The application software contents program is a program code for a particular process to achieve an

objective of the present information processing apparatus and includes one or more tasks. The application software contents data is a set of data that is handled by the application software contents program or the application software engine. The information processor performs an operation process based on an electrical signal from the man-machine interface and software stored in the semiconductor memory, and produces image information and sound information.

Claim 3 is directed to an information processing apparatus for outputting video and audio signals to a home TV set. The apparatus comprises a man-machine interface, a semiconductor memory and an information processor. The man-machine interface converts into an electrical signal one or a plurality of urging force, in-space movement, sound information that are given by a human to the present man-machine interface. The semiconductor memory stores software for driving the information processor. The software is configured by an operating system, an information processor hardware driver, a man-machine interface driver, a script language interpreter and an application software contents portion. The information processor hardware driver efficiently handles a hardware resource in the information processor and is configured by a driver program and a driver language interpreter. The driver data is a set of data handled by the driver program. The man-machine interface driver efficiently delivers the electrical information from the man-machine interface to the script language interpreter and includes totally one or more tasks and subroutines, and is utilized in the function according to task execution or a subroutine call from the script language interpreter. The script language interpreter sequentially interprets a script language source code to produce and execute an object code interpretable by the information processor. The application software contents portion is configured by a script language source code and the application software contents data. The script language source code is a program for a particular process to achieve an objective of the present information processing apparatus. The application software contents data is a set of data that is handled by the script language source code and the script language interpreter. The information processor performs an operation process based on an electrical signal from the man-machine interface and the software stored in the semiconductor memory, and producing image information and sound information.

It is respectfully submitted that the applied prior art neither teaches nor suggests an

information processor being able to perform an operation process based on an electrical signal from the man-machine interface and software stored in the semiconductor memory, and produce image and sound information. Specifically, the Office Action takes the position that the information processor hardware is a program that is necessary to access a hardware device and receives information from an input device such as a mouse and a trackball. However, such a program function module is described in the reference corresponding to a man-machine interface driver in the claimed invention. In contrast, the information processor hardware driver in the present invention is intended to handle the hardware resources more efficiently and not to interpret inputs from the external hardware devices. Thus, it is submitted that the driver as mentioned in the Office Action is not the same as the driver as claimed in the present invention.

In addition, the Office Action takes the position that the operating system and the application software are stored in a single semiconductor memory is well-known in the art. Applicants, however, respectfully submit that the software modules such as an application software engine and the information processor hardware driver as recited in claim 1 are not taught or suggested by the applied prior art. Since these features are housed within a single semiconductor memory, Applicants respectfully submit that the applied prior art neither teaches nor suggests all the features of the claimed invention.

Kikuchi discloses a game machine assembly that includes a CPU, a graphic data processor, a memory and a software incorporating video game technology. The CPU reads the graphics data and the sound data stored in the recording medium and saves it in the main memory. Then, the stored data is transferred to buffers 11 and 14. Thus, the CPU controls the image processing, audio processing, and the internal processing operations based on commands entered by the user.

However, Kikuchi does not teach or suggest all the features of the claimed invention. The Office Action takes the position that the application software engine as recited in claim 1 of the present invention is read from the recording medium of Kikuchi to make the CPU perform a plurality of tasks and subroutines. However, the application software engine of the present invention performs a process relied upon regular process required by the application software engine. In addition, it is submitted that the information processor hardware driver of the present invention is not the same as the driver disclosed

in Kikuchi. More specifically, the device in Kikuchi is used to interpret the input from an interface such as the controller, mouse or a trackball. The information processor hardware driver of the present invention is not for interpreting the input from an external hardware. Thus, it is respectfully submitted that Kikuchi neither teaches nor suggests the application software engine and the information processor hardware driver as recited in the present invention. Accordingly, Applicants respectfully request the withdrawal of the rejection on, it is submitted that the information processor hardware driver of the present invention is not the same as the driver disclosed in Kikuchi. More specifically, the device in Kikuchi is used to interpret the input from an interface such as the controller, mouse or a trackball. The information processor hardware driver of the present invention is not for interpreting the input from an external hardware. Thus, it is respectfully submitted that Kikuchi neither teaches nor suggests the application software engine as recited in claim 1 or the information processor hardware driver as recited in claims 1 and 3 of the present invention. Accordingly, Applicants respectfully request the withdrawal of the rejection of claim 1 and 3.

Claims 2 and 4 are dependent upon claims 1 and 3, respectively. Claims 2 and 4 are amended to more clearly recite the claimed invention. More specifically, the Office Action takes the position that Kikuchi discloses that a CPU, a graphics processor, audio processor all share the main memory. Applicants respectfully disagree. In Figure 1 of Kikuchi, the CPU 1 acts as a bus master for the bus 2, thus issues control signals as the address and the read/write signal to the bus. As a result, the graphics processor and the audio processor are merely bus slaves which receive the address and the control signals from the bus. Therefore, the CPU, graphics processor, and the audio processor do not share the same main memory. In contrast, in the present invention, the central processor 31, graphics processor 32, and the sound processor 33 in the information processor 3 all function as the bus master and share all the resources connected to the first bus and the second bus. Accordingly, only in such an arrangement, as shown in Figure 13, it is possible for the graphics processor, sound processor and the information hardware driver to access data. However, in Kikuchi, the CPU reads the graphics data and the sound data stored in the recording medium and saves the information in the main memory, and then transfers the data to buffers 11 and 14. Thereafter, the information

becomes possible for the graphics processor and the sound processor to perform utilizing the graphics data and the sound data. Accordingly, Kikuchi fails to teach or suggest that the bus masters such as the central processor, the graphics processor and the sound processor share the semiconductor memory connected to the common bus. Accordingly, Applicants request the withdrawal of the rejection of claims 2 and 4.

Claims 5-6 are rejected under 35 U.S.C. §103(a), as being unpatentable over Kikuchi (U.S. Patent No. 6,227,973 B1) in view of Eilat (U.S. Patent No. 6,227,974 B1). The Office Action takes the position that the combination of Kikuchi and Eilat teach or suggest all the features recited in claims 5 and 6. Applicants respectfully disagree.

Claims 5 and 6 are dependent upon claim 1 and 3, respectively. Therefore, these claims recite subject matter that is neither taught nor suggested by the applied prior art for at least the same reasons as mentioned above. Also, as discussed above, Kikuchi does not teach the features of the claimed invention, and moreover, Eilat does not cure the deficiencies of Kikuchi. Therefore, Applicant request the withdrawal of the rejection of claims 5 and 6.


In view of the distinctions discussed above, withdrawal of the rejections to claims 1-8 is respectfully requested. Claims 2 and 4 are amended. No new matter is added. Therefore, Applicants submit that the application is now in condition for allowance with claims 1-8 contained therein.

Should the Examiner believe the application is not in condition for allowance, the Examiner is invited to contact Applicant's undersigned attorney at the telephone number listed below.

In the event this paper is not considered to be timely filed, Applicants respectfully petition for an appropriate extension of time. The Commissioner is authorized to charge payment for any additional fees which may be required with respect to this paper to Counsel's Deposit Account 01-2300.

Respectfully submitted,

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Enclosure: Petition for Two-Month Extension of Time
Marked-up Copy of the Claims

MARKED-UP COPY OF CLAIMS

2. (Amended) An information processing apparatus according to claim 1, wherein said information processor having a central processor, a graphics processor and a sound processor, said central processor, graphics processor and sound processor being connected to a common bus to which said semiconductor memory is connected;

said central processor, said graphic processor and said sound processor sharing a memory space in which said semiconductor memory is allocated, and sharing said semiconductor memory as bus masters;

said central processor controlling said graphics processor and said sound processor based on said electrical information from said man-machine interface and a program code in said software;

said graphics processor having means to generate image information, and

said sound processor having means to generate sound information.

4. (Amended) An information processing apparatus according to claim 3, wherein said information processor has a central processor, a graphics processor and a sound processor, said central processor, graphics processor and sound processor being connected to a common bus to which said semiconductor memory is connected;

said central processor, said graphics processor and said sound processor sharing a memory space in which said semiconductor memory is allocated, and sharing said semiconductor memory as bus masters;

said central processor controlling said graphic processor and said sound processor based on said electrical information from said man-machine interface and a program code

in said software;

said graphics processor having means to generate image information; and

said sound processor having means to generate sound information.